

FORM PTO-1390  
(REV. 10-2000)U.S. DEPARTMENT OF COMMERCE  
PATENT AND TRADEMARK OFFICE

ATTORNEY/CHECK NUMBER

20430P

**TRANSMITTAL LETTER TO THE UNITED STATES  
DESIGNATED/ELECTED OFFICE (DO/EO/US)  
CONCERNING A FILING UNDER 35 U.S.C. 371**

U.S. APPLICATION NO. (If known, see 37 CFR 1.5)

**09/937499**INTERNATIONAL APPLICATION NO.  
PCT/US00/09587INTERNATIONAL FILING DATE  
10 April 2000PRIORITY DATE CLAIMED  
14 April 1999

## TITLE OF INVENTION

NOVEL HUMAN VOLTAGE-GATED POTASSIUM CHANNEL

## APPLICANT(S) FOR DO/EO/US

Konstantin Petrukhin, C. Thomas Caskey, Wen Li and Michael L. Metzker

**Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information:**

1. ☒ This is a **FIRST** submission of items concerning a filing under 35 U.S.C. 371.
2. ☐ This is a **SECOND** or **SUBSEQUENT** submission of items concerning a filing under 35 U.S.C. 371.
3. ☐ This is an express request to begin national examination procedures [35 U.S.C. 371(f)] at any time rather than delay examination until the expiration of the applicable time limit set in 35 U.S.C. 371(b) and PCT Articles 22 and 39(l).
4. ☒ A proper Demand for International Preliminary Examination was made and the US was elected by the expiration of the 19th month from the earliest claimed priority date (PCT Article 31).
5. ☒ A copy of the International Application as filed [35 U.S.C. 371(c)(2)].
  - a. ☐ is attached hereto (required only if not communicated by the International Bureau).
  - b. ☐ has been communicated by the International Bureau.
  - c. ☒ is not required, as the application was filed in the United States Receiving Office (RO/US).
6. ☐ An English language translation of the International Application as filed [35 U.S.C. 371(c)(2)].
7. ☐ Amendments to the claims of the International Application under PCT Article 19 [35 U.S.C. 371(c)(3)].
  - a. ☐ are attached hereto (required only if not communicated by the International Bureau).
  - b. ☐ have been communicated by the International Bureau.
  - c. ☐ have not been made; however, the time limit for making such amendments has NOT expired.
  - d. ☐ have not been made and will not be made.
8. ☐ An English language translation of the amendments to the claims under PCT Article 19 [35 U.S.C. 371(c)(3)].
9. ☒ An oath or declaration of the inventor(s) [35 U.S.C. 371(c)(4)].
10. ☐ An English language translation of the annexes to the International Preliminary Examination Report under PCT Article 36 [35 U.S.C. 371(c)(5)].

**Items 11 to 16 below concern other document(s) or information included:**

11. ☐ An Information Disclosure Statement under 37 CFR 1.97 and 1.98.
12. ☐ An assignment document for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included.
13. ☐ A **FIRST** preliminary amendment.  
☐ A **SECOND** or **SUBSEQUENT** preliminary amendment.
14. ☐ A substitute specification.
15. ☐ A change of power of attorney and/or address letter.
16. ☐ Other items or information:

**EXPRESS MAIL CERTIFICATE**

DATE OF DEPOSIT SEP 26 2001  
 EXPRESS MAIL NO. EE180606899US  
 I HEREBY CERTIFY THAT THIS CORRESPONDENCE IS  
 BEING DEPOSITED WITH THE UNITED STATES POSTAL  
 SERVICE AS EXPRESS MAIL "POST OFFICE TO  
 ADDRESSEE" BEFORE 5 P.M. ON THE ABOVE DATE IN  
 AN ENVELOPE ADDRESSED TO ASSISTANT COMMISSIONER  
 FOR PATENTS, WASHINGTON, D.C. 20231  
 MAILED BY A. B. Crowley  
 DATE 9/26/01

U.S. APPLICATION NO. (If known, see 37 CFR 1.55) <b>09/937499</b>				INTERNATIONAL APPLICATION NO. PCT/US00/20430		ATTORNEY'S DOCKET NUMBER 20430P	
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17. <input checked="" type="checkbox"/> The following fees are submitted:				CALCULATIONS	PTO USE ONLY
<b>BASIC NATIONAL FEE [37 CFR 1.492(a)(1)-(5)]:</b> Neither international preliminary examination fee (37 CFR 1.482) nor international search fee [37 CFR 1.445(a)(2)] paid to USPTO and International Search Report not prepared by the EPO or JPO..... <b>\$1,000.00</b> International preliminary examination fee (37 CFR 1.482) not paid to USPTO but International Search Report prepared by the EPO or JPO..... <b>\$860.00</b> International preliminary examination fee (37 CFR 1.482) not paid to USPTO but international search fee [37 CFR 1.445(a)(2)] paid to USPTO..... <b>\$710.00</b> International preliminary examination fee paid to USPTO (37 CFR 1.482) but all claims did not satisfy provisions of PCT Article 33(1)-(4)..... <b>\$690.00</b> International preliminary examination fee paid to USPTO (37 CFR 1.482) and all claims satisfied provisions of PCT Article 33(1)-(4)..... <b>\$100.00</b> <div style="text-align: right;"><b>ENTER APPROPRIATE BASIC FEE AMOUNT =</b></div>					
Surcharge of <b>\$130.00</b> for furnishing the oath or declaration later than <input type="checkbox"/> 20 <input type="checkbox"/> 30 months from the earliest claimed priority date [37 CFR 1.492(e)].				\$0.00	
Claims	Number Filed	Number Extra	Rate		
Total Claims	21 - 20 =	1	X <b>\$18.00</b>	\$18.00	
Independent Claims	12 - 3 =	9	X <b>\$80.00</b>	\$720.00	
Multiple dependent claim(s) (if applicable)	0		+ <b>\$270.00</b>	\$0.00	
<b>TOTAL OF ABOVE CALCULATIONS =</b>				\$838.00	
<input type="checkbox"/> Applicant claims small entity status. See 37 CFR 1.27. The fees indicated above are reduced by 1/2.					
<b>SUBTOTAL =</b>				\$838.00	
Processing fee of <b>\$130.00</b> for furnishing the English translation later than <input type="checkbox"/> 20 <input type="checkbox"/> 30 months from the earliest claimed priority date [37 CFR 1.492(f)].				+\$0.00	
<b>TOTAL NATIONAL FEE =</b>				\$838.00	
Fee for recording the enclosed assignment [37 CFR 1.21(h)]. The assignment must be accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31). <b>\$40.00</b> per property.				+\$	
<b>TOTAL FEES ENCLOSED =</b>				\$838.00	
				Amount to be refunded	
				charged	

a. ☐ A check in the amount of \$ \_\_\_\_\_ to cover the above fees is enclosed.

b. ☒ Please charge my Deposit Account No. 13-2755 in the amount of \$838.00 to cover the above fees. A duplicate copy of this sheet is enclosed.

c. ☒ The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to the Deposit Account No. 13-2755. A duplicate copy of this sheet is enclosed.

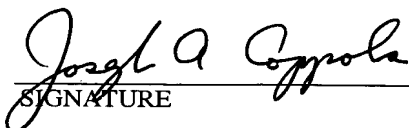
**NOTE: Where an appropriate time limit under 37 CFR 1.494 or 1.495 has not been met, a petition to revive [37 CFR 1.137(a) or (b)] must be filed and granted to restore the application to pending status.**

SEND ALL CORRESPONDENCE TO:

MERCK & CO., INC.  
 Patent Department, RY60-30  
 P.O. Box 2000  
 126 East Lincoln Avenue  
 Rahway, New Jersey 07065-0970

DATE: 9/26/01

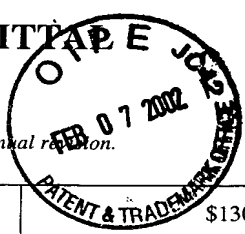
PHONE #: (732) 594-6734

  
 SIGNATURE  
 Joseph A. Coppola  
 NAME  
 38,413  
 REGISTRATION NUMBER

Complete if Known 07 FEB 2002

# FEE TRANSMITTAL

Patent fees are subject to annual revision.



TOTAL AMOUNT OF PAYMENT

\$130

Application Number	09/937,499
Filing Date	September 26, 2001
First Named Inventor	Petrukhin, et al.
Examiner Name	
Group Art Unit	
Attorney Docket Number	20430P

## METHOD OF PAYMENT (Check one)

1. ☒ The Commissioner is hereby authorized to charge indicated fees and credit any overpayments to:

Deposit Account Number

13-2755

Deposit Account Name

Merck & Co., Inc.

- ☒ Charge Any Additional Fee Required Under 37 CFR 1.16 and 1.17

2. ☐ Payment Enclosed:

☐ Check

☐ Money Order

☐ Other

## FEE CALCULATION

### 1. BASIC FILING FEE

Large Fee Code	Entity Fee (\$)	Fee Description	Fee Paid
101	740	Utility filing fee	
106	330	Design filing fee	
108	740	Reissue filing fee	
114	160	Provisional filing fee	

02/12/2002 LLANDGRA 00000062 132755 09937499

01 FC-154

130.00 CH

SUBTOTAL(1)

\$0

### 2. EXTRA CLAIM FEES

	Extra	Fee from below	Fee Paid
Total Claims	20 ** =	0 x \$18 =	0
Independent Claims	3 ** =	0 x \$84 =	0
Multiple Dependent Claims		\$280 =	

\*\*or number previously paid, if greater; For Reissues, see below

Large Fee Code	Entity Fee (\$)	Fee Description
103	18	Claims in excess of 20
102	84	Independent claims in excess of 3
104	280	Multiple dependent claim, if not paid
109	84	**Reissue independent claims over original patent
110	18	**Reissue claims in excess of 20 and over original patent

SUBTOTAL(2)

\$0

## FEE CALCULATION (continued)

### 3. ADDITIONAL FEES

Large Fee Code	Entity Fee (\$)	Fee Description	Fee Paid
105	130	Surcharge - late filing fee or oath	130
147	2,520	For filing a request for reexamination	
115	110	Extension for reply within first month	
116	400	Extension for reply within second month	
117	920	Extension for reply within third month	
118	1,440	Extension for reply within fourth month	
128	1,960	Extension for reply within fifth month	
119	320	Notice of Appeal	
120	320	Filing a brief in support of an appeal	
121	280	Request for oral hearing	
140	110	Petition to revive - unavoidable	
141	1,280	Petition to revive - unintentional	
142	1,280	Utility issue fee (or reissue)	
143	460	Design issue fee	
122	130	Petitions to the Commissioner	
123	50	Petitions related to provisional applications	
126	180	Submission of Information Disclosure Statement	
581	40	Recording each patent assignment per property (times number of properties)	
146	740	Filing a submission after final rejection (37 CFR 1.129(a))	
149	740	For each additional invention to be examined (37 CFR 1.129(b))	
179	740	Request for Continued Examination (RCE)	
Other fee (specify)			
Other fee (specify)			
SUBTOTAL(3)			\$130

## SUBMITTED BY

## Complete (if applicable)

Typed or Printed Name

Joseph A. Coppola

Reg. Number

38,413

Signature

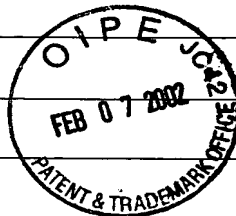
Joseph A. Coppola

Date

14 JAN. 2002

Deposit Account User ID

Application Number: 09/937,499  
Filing Date: 09/26/2001  
First Named Inventor: Petrukhin, et al.  
Group Art Unit: \_\_\_\_\_  
Examiner Name: \_\_\_\_\_  
Attorney Docket Number: 20430P



**FIRST CLASS MAIL CERTIFICATE**

I HEREBY CERTIFY THAT THIS CORRESPONDENCE IS BEING DEPOSITED WITH THE UNITED STATES POSTAL SERVICE AS FIRST CLASS MAIL IN AN ENVELOPE ADDRESSED TO: ASSISTANT COMMISSIONER FOR PATENTS, WASHINGTON, D.C. 20231, ON THE DATE APPEARING BELOW.

**MERCK & CO., INC.**

MAILED BY

Nancy York

DATE

January 14, 2002